

*Serial No. 10/049,323
Attorney Docket No. 119508-00135*

IN THE ABSTRACT:

Please add the attached Abstract of the disclosure to the application, after the claims, as page 30.

ABSTRACT OF THE DISCLOSURE

A magnetic transducer element for use in sensing torque in a contactless transducer system for rotating shaft comprises an annular region of magnetisation induced in the shaft by rotating it about its axis with respect to a magnetising source oriented to create longitudinal magnetisation in the annular region. The source may be a U-shaped (horseshoe) magnet with its poles axially spaced and with the gap between the poles substantially greater than the axial width of the poles. The application of torque to the shaft skews the longitudinal magnetisation to generate a torque-dependent tangential circumferential field component. This tangential field component is sensed by an external sensor or sensors adjacent but not in contact with the annular transducer region. A pair of transducer regions can be employed as well as guard or keeper regions to enhance and stabilise the transducer region.